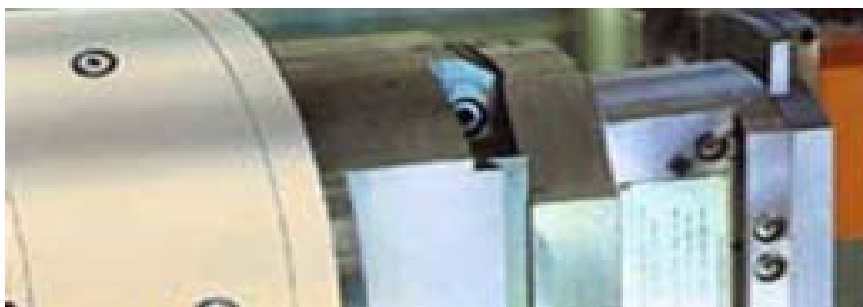
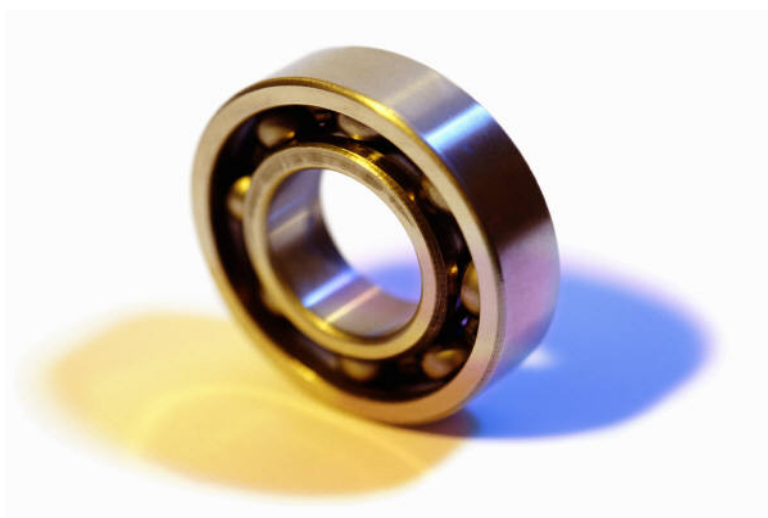




*Cabinet for Economic Development*



# The Machine Tool Industry In Kentucky





## **The Machine Tool Industry in Kentucky**

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## **I. INTRODUCTION**

This industry profile examines the machine tools and machine tools accessories industries in Kentucky for NAICS (North American Industry Classification System) codes 333511, 333512, 333513, 333514, 333515, 333516 and 333518.

### **Machine Tools**

#### *Overview*

Machine tools are heavy, power-driven machinery and equipment that perform specific actions on materials like metal and plastic. The most common jobs these machines are used for include material removal (turning, milling, drilling, grinding, water-jet or laser cutting); material forming (stamping, bending, joining); and “workholding” (chucks, fixtures, clamps, blocks). The majority of this equipment is technical in nature, with computer numerical control (CNC) or programmable logic control (PLC) built in.<sup>1</sup>

The tooling and machining industry is critical to our country’s economic health as it makes possible the existence of virtually every other manufacturing industry. Tooling is, basically, the means of production. “Special” tooling, such as dies and molds, is custom designed and made to manufacture specific products, generally in quantity, and to desired levels of uniformity, accuracy, interchangeability, and quality. Machining involves the use of a wide variety of machine tools to cut or form material, usually metal, to precise shapes and dimensions.<sup>2</sup>

#### *Domestic Trends*

Advances in technology are creating major changes in the U.S. machine tool industry. The computerization of the industry is leading to rapid improvements in existing machine tool product lines and the development of new products. The shortage of skilled labor and the relatively high costs of labor are driving the demand for machine tools with greater flexibility that are programmable to replace or reduce the need for more sophisticated operators.

The increased competitiveness of major consuming industries such as the automotive and job shop sectors is driving the demand for more sophisticated machines. End users are investing in machine tools that offer increased performance, flexibility and productivity. The U.S. continues to be a global leader in metrology, composite tape-laying machines, transfer lines and systems, CNC machining centers, spar and skin mills for aircraft components, punch presses and spiral bevel and parallel axis gear-making machinery. Additionally, the U.S. is a world-leader in water-jet cutting and laser processing, as well as the technology for developing small assembly robots.<sup>3</sup>

#### *Global Market Prospects*

With the globalization of the world’s machine tool industries and markets, many machine tool companies have become dependent on exports. U.S. exports currently account for about 40 percent of U.S. production of machine tools. For example, China was the leading recipient for U.S. machine tools in August 2005. During that same time, Japan and Germany were reported to be the leading providers of U.S. machine tool imports.<sup>4</sup>

However, many small and medium-size companies with limited resources focus only on a limited number of markets. The trend toward globalization in a wide range of industries, particularly the

automotive sector, will ensure continued growth in offshore demand for capital equipment. Global manufacturers are building plants throughout the world to supply markets.

## **Machine Tool Accessories**

### *Overview*

The machine tool accessories subsector includes establishments engaged primarily in manufacturing cutting tools, machinists' precision measuring tools such as comparators and micrometers, and work and tool holders, including vises, attachments, and accessories for machine tools and other metalworking machinery. The cutting tool subsector is the largest subsector in this industry. Metal cutting tools perform the actual cutting operation for a machine tool and they include drills, taps, reamers, and various forms of indexable inserts. The Machine Tools Accessories Industry is comprised of NAICS industry code 333515.

### *Domestic Trends*

Job shops account for a large share of cutting tool sales in the domestic market. The major end user of these tools is the automobile industry. Other leading customers for cutting tools include manufacturers of industrial machinery, aircraft, off-road vehicles, white goods, tools and dies, and electrical machinery. The production of machine tool accessories is concentrated in the Great Lakes states.

### *Global Market Prospects*

The metal cutting tool segment of the machine tool accessories industry is largely a domestic industry, with imports amounting to about \$100 million per year and exports amounting to an estimated 62.5 million in 1999. The primary market for metal cutting tools remains small metalworking shops in both foreign and domestic markets.

## **II. ECONOMIC IMPACT**

The machine tool and accessories industry in Kentucky has 166 total business establishments with 3,162 employees. Kentucky's strongest presence is in the special die, tool, die set, jig and fixtures segment, which has 101 facilities employing 1551.

**Table 1: Kentucky's Metalworking Machinery and the Machine Tool Manufacturing Industry – NAICS 3335**

Employees	3,162
Average Annual Salary	\$42,001
Number of Business Establishments	166
Value of Shipments	\$621,199,000

Source: U.S. Department of Labor, Bureau of Labor Statistics, Quarterly Census of Employment and Wages, 2004.

Kentucky has a significant national presence in the Industrial Mold manufacturing (333511), Special Die and Tool, Die Set, Jig and Fixture manufacturing (333514), and the Machine Tool Accessory manufacturing (333515) industries. Highlights of Kentucky's machine tool and accessories industry national rankings:

#### **Industrial Mold Manufacturing Rankings<sup>5</sup>**

- Kentucky ranks among the top half of states with the lowest cost as a percentage of shipments.

#### **Special Die and Tool Manufacturing Rankings<sup>6</sup>**

- Kentucky ranks among the top third of states with the lowest wage rate.
- Kentucky ranks among the top half of states in value of shipments.
- Kentucky ranks among the top third of states in shipments per establishment.

#### **Machine Tool Accessory Manufacturing Rankings<sup>7</sup>**

- Kentucky ranks among the top 3 states with the lowest cost as a percentage of shipments.
- Kentucky ranks among the top 3 states in terms of investment per employee.

**Table 1: Composition of Kentucky's Metalworking Machinery and Machine Tool Manufacturing Industry — 2003**

<b>NAICS</b>	<b>Industry Description</b>	<b>Number of Employees</b>	<b>Estimated Annual Wage</b>	<b>Total Business Establishments</b>
<b>3335</b>	<b><i>Metalworking machinery mfg.</i></b>	<b>3,147</b>	<b>\$42,691</b>	<b>112</b>
333511	<i>Industrial mold</i>	772	\$33,667	35
333512	<i>Machine tool (metal cutting types)</i>	1,000-2,499	-	9
333513	<i>Machine tool (metal forming types)</i>	76	-	5
333514	<i>Special die, tool, die set, jig &amp; fix.</i>	735	\$36,448	52
333515	<i>Cutting tool &amp; machine tool acces.</i>	93	\$40,183	6
333516	<i>Rolling mill machinery &amp; equip.</i>	20-99	-	1
333518	<i>Other metalworking machinery</i>	100-249	-	4

Source: Data derived from the United States Census Bureau, County Business Patterns 2003.

Note: All data is NAICS based.

**Table 1a: NAICS 333511 – Industrial Mold Manufacturing Industry Data By State**

This U.S. industry comprises establishments primarily engaged in manufacturing industrial molds for casting metals or forming other materials, such as plastics, glass, or rubber.

State	Total Value of Shipments (\$1,000)	Wages (\$/hour)	Value Added (\$1,000)	Total Cost of Materials (\$1,000)	Total Capital Expenditures (\$1,000)
Alabama	43,967	17.80	30,903	12,636	4,652
Georgia	23,680	15.32	16,167	7,543	5,304
Illinois	399,213	22.13	297,086	104,637	18,056
Indiana	275,903	19.77	206,119	68,311	12,512
<b>Kentucky</b>	<b>128,952</b>	<b>14.99</b>	<b>87,739</b>	<b>35,819</b>	<b>5,536</b>
Michigan	1,017,964	22.97	727,750	291,456	33,530
Mississippi	11,027	14.49	7,302	3,594	151
Missouri	119,975	18.34	93,359	27,276	4,764
North Carolina	91,430	19.25	24,277	35,309	2,410
Ohio	578,058	20.26	409,659	165,157	22,981
South Carolina	71,703	22.21	48,042	21,580	7,626
Tennessee	123,473	13.33	82,216	41,574	3,414
Virginia	35,424	16.67	24,731	9,809	2,012
West Virginia	-	-	-	-	-

Source: U.S. Census Bureau, 2002 Economic Census.

Note: States that are a disclosure or with less than 100 employees are not shown.

**Table 1b: NAICS 333514 – Special Die and Tool, Die Set, Jig, and Fixture Manufacturing Industry Data By State**

This U.S. industry comprises establishments, known as tool and die shops, primarily engaged in manufacturing special tools and fixtures, such as cutting dies and jigs.

State	Total Value of Shipments (\$1,000)	Wages (\$/hour)	Value Added (\$1,000)	Total Cost of Materials (\$1,000)	Total Capital Expenditures (\$1,000)
Alabama	63,613	13.69	46,056	17,643	4,633
Georgia	55,124	19.77	43,621	15,091	1,020
Illinois	502,319	19.56	345,839	155,707	17,814
Indiana	312,411	19.01	220,448	92,572	12,524
<b>Kentucky</b>	<b>48,139</b>	<b>17.73</b>	<b>36,403</b>	<b>12,218</b>	<b>3,322</b>
Michigan	2,466,172	22.33	1,670,736	786,211	96,264
Mississippi	22,519	15.15	14,397	7,999	1,025
Missouri	125,037	15.33	86,544	37,929	4,317
North Carolina	61,425	16.32	48,952	12,325	1,693
Ohio	823,334	19.12	562,695	270,621	33,187
South Carolina	36,634	20.07	26,113	10,258	845
Tennessee	125,000	20.39	90,347	35,963	5,047
Virginia	46,210	15.44	36,835	9,562	524
West Virginia	-	-	-	-	-

Source: U.S. Census Bureau, 2002 Economic Census.

Note: States that are a disclosure or with less than 100 employees are not shown.

**Table 1c: NAICS 333515 – Cutting Tool and Machine Tool Accessory Manufacturing Industry Data By State**

This U.S. industry comprises establishments primarily engaged in manufacturing accessories and attachments for metal cutting and metal forming machine tools.

State	Total Value of Shipments (\$1,000)	Wages (\$/hour)	Value Added (\$1,000)	Total Cost of Materials (\$1,000)	Total Capital Expenditures (\$1,000)
Alabama	-	-	-	-	-
Georgia	-	-	-	-	-
Illinois	423,708	17.73	289,280	152,312	22,342
Indiana	85,269	17.52	55,777	25,886	3,090
<b>Kentucky</b>	<b>21,806</b>	<b>19.10</b>	<b>12,885</b>	<b>8,900</b>	<b>900</b>
Michigan	882,778	18.34	610,723	269,164	30,665
Mississippi	-	-	-	-	-
Missouri	156,206	16.23	99,113	54,667	4,317
North Carolina	105,304	15.52	81,674	23,908	15,803
Ohio	421,821	17.16	307,500	109,879	11,538
South Carolina	180,885	16.41	105,714	73,599	12,454
Tennessee	153,398	17.60	136,179	16,980	1,532
Virginia	38,604	17.89	25,613	13,009	121
West Virginia	-	-	-	-	-

Source: U.S. Census Bureau, 2002 Economic Census.

Note: States that are a disclosure or with less than 100 employees are not shown.

**Table 2: NAICS 3335 Rankings for Kentucky and Competitor States--2002 Metalworking Machinery Industry**

Competitor States	Total Employees		Estimated Annual Wage		Total Business Establishments	
	Total Jobs	Rank	Wage	Rank	Establishments	Rank
<b>United States</b>	<b>191,746</b>	<b>-</b>	<b>\$ 43,826</b>	<b>-</b>	<b>9,162</b>	<b>-</b>
Alabama	1497	25	\$ 32,437	32	35	33
Georgia	1573	23	\$ 34,440	30	29	35
Illinois	14690	3	\$ 42,572	5	412	7
Indiana	7650	7	\$ 37,526	21	84	19
<b>Kentucky</b>	<b>3147</b>	<b>15</b>	<b>\$ 39,999</b>	<b>13</b>	<b>231</b>	<b>11</b>
Michigan	37839	1	\$ 47,995	1	1525	1
Mississippi	635	34	\$ 28,391	36	22	37
Missouri	4113	11	\$ 39,597	14	222	12
North Carolina	2956	16	\$ 34,736	29	62	28
Ohio	21813	2	\$ 40,307	12	132	17
South Carolina	2508	17	\$ 34,779	28	73	24
Tennessee	4024	12	\$ 41,204	8	179	14
Virginia	1411	26	\$ 39,419	15	208	13
West Virginia	20-99	-	-	-	7	44

Source: Data derived from the United States Census Bureau, County Business Patterns 2002.

Note: A ranking of one (1) is the highest ranking nationally (50 states plus the District of Columbia).

**Table 3: Major Machine Tool and Machine Tool Accessory Employers in Kentucky — 2006**

Facility Name	Employment
Mazak Corp	556
Highland Diversified Services Inc.	369
Cincinnati Lamb	353
Vincent Industrial Plastics Inc	300
Precision Tool Die & Machine	190
MedVenture Technology Corp	170
Summa Technology Inc.	150
Krauss-Maffei Corp	143
Service Tools & Plastics	120
Robert Bosch Tool Corporation	110
Hi-Tech Mold & Tool Inc.	110
Novitec Industries Inc.	105
WMI Incorporated	105
B & H Tool Works Inc.	105
Stauble Machine & Tool Co. Inc.	90
Vuteq Engineering Corp	80
Service Tool & Die Inc.	70
Star Manufacturing Inc.	70
Madison-Smith Machine & Tool	61
Midwest Stamping Company	57
Accuromm U S A Inc.	55
Andrews Laser Works Corp	52
Roller Die & Forming Co. Inc.	51
S & S Tool & Machine Co. Inc.	50

Based on NAICS 333511, 333512, 333513, 333514, 333515, 333516, 333518.

Source: Kentucky Cabinet for Economic Development, General Research Branch, KBIIS.

### III. INDUSTRY RESOURCES

#### KENTUCKY ADVANTAGES

Kentucky is an attractive location for machine tool and accessory companies for several reasons, including:

- **Auto Industry:** Kentucky is the location for more than 490 motor vehicle related facilities. As more motor vehicle-related firms move to Kentucky and as automobile manufacturers continue to be the industry's largest customer group, Kentucky will continue to become an attractive location for machine tool and accessory companies.
- **Central Location:** Kentucky is centrally located within the Eastern United States. Two-thirds of the nation's population, personal income, and manufacturing establishments are located within 600 miles of Kentucky's borders.
- **Low Cost of Electricity:** Thanks in large part to its abundant coal reserves, Kentucky ranks as the lowest cost state in the nation for the provision of industrial power<sup>8</sup>.



- **Ports along the Ohio and Mississippi Rivers:** Access to these river ports provides low cost transportation of machine tool and accessory products to national and global markets.
- **Quality Workforce:** Kentucky has an abundant labor base with manufacturing experience and its workforce ranks in the top half of states in producing more output per dollar in wages than the national average<sup>9</sup>.

## **SKILLED WORKERS**

### **University of Kentucky Center for Manufacturing**

The University of Kentucky Center for Manufacturing [www.mfg.uky.edu](http://www.mfg.uky.edu) specializes in education, research and technical services for manufacturers in Kentucky, across the United States, and internationally. As a crucial link in the commercialization process, the center conducts more than 250 projects annually in manufacturing process improvement, design analysis, product development and many other engineering services. In addition to providing technical assistance to industry, the Center also pursues basic and applied research in welding, brazing, machining, metal forming, painting technology, system controls and mass customization and offers custom-designed education in lean manufacturing and lean systems and in a range of technical areas to industry clients, with over 3,500 participants annually.

Especially notable is the Center's lean systems program, created in partnership with Toyota Motor Manufacturing Kentucky in 1993 to explore, study, and teach the workings of the Toyota Production System. For over a decade, the lean systems team has been offering a wide range of clients practical working strategies for lean transformation, including a Leadership Institute, Lean Certification, Value Stream Improvement and Shop Transformation courses.

### **Bluegrass State Skills Corporation**

The Bluegrass State Skills Corporation (BSSC), [www.thinkkentucky.com/bssc/](http://www.thinkkentucky.com/bssc/), was established in 1984 by the General Assembly as an independent, de jure corporation to improve and promote the employment opportunities of the citizens of the Commonwealth by creating and expanding programs of skills training and education which meet the needs of business and industry. The BSSC's four main functions are to administer and fund Kentucky's customized business and industry specific training efforts through training agreements for Grant-in-Aids and Skills Training Investment Credits; to act as a broker, by coordinating the resources of providers of skills training and employment services; to facilitate the creation of public/private partnerships through education and training programs designed to meet the needs of individual companies and training consortia; and to administer any special state appropriation for customized business and industry specific training. The BSSC is attached to the Cabinet for Economic Development for administrative purposes in recognition of the relationship between economic development and skills training efforts.

## **Kentucky Career and Technical Education**

### **Machine Tool Technology**

Kentucky has three education groups that offer Machine Tool programs in their curricula: Kentucky Community and Technical College (KCTCS), Kentucky Department of Education Career and Technical Education Division, and the Office of Career and Technical Education (Kentucky Tech). Several post-secondary schools in Kentucky have related programs to Machine Tool Technology and Manufacturing including the University of Kentucky, Eastern Kentucky University, Morehead State University, Murray State University, and Western Kentucky University.

Machine Tool Technology programs are offered in 21 Area Technology Centers and four high schools splayed across Kentucky. The Associate of Applied Technology Degree (AAS) in Machine Tool

Technology is available through four Kentucky Community and Technical Colleges (KCTCS), <http://www.kctcs.net/>. Additionally, the System offers the Diploma in CNC Machinist through 13 colleges and the Machinist Diploma through 11 colleges. Each of these colleges also awards various certificates under the Machine Tool Technology program.

The Machine Tool Technology program includes applied mathematics, basic blue print reading, computer fundamentals, fundamentals of machine tools, manual programming CAD/CAM, CNC and applied machining. Leadership and professionalism are provided through the SkillsUSA student organization and the Professional Development Program. Many connections to machine tool technology can be made through programs like Lean Manufacturing, Computer Integrated Manufacturing, and Industrial Maintenance Technology, which have as the program focus, automation of machine tool activities.

#### IV. BUSINESS CLIMATE

Kentucky offers a wide range of opportunities for a profitable investment in all business sectors. Finance and Insurance, Educational Services, Professional and Technical Services, Healthcare and Transportation and Warehousing rank as the fastest growing industries, as measured by percentage change in gross state product (1997 – 2004). As a contribution to overall Gross State Product (GSP), Kentucky's manufacturing share of 21% is fourth nationally. Kentucky has a strong industrial base of steel, aluminum, chemicals, plastics, and machinery production, driven by massive resources of water, low-cost electric power, and reasonably priced barge, rail, and truck transportation.

- Kentucky ranked 4th among the states in the *Site Selection* Competitiveness Award for 2004, according to the May 2005 issue of the magazine. The Competitiveness Award is based on 10 quantifiable criteria for measuring business expansion activity.
- Kentucky ranked 13<sup>th</sup> in the March 2005 *Site Selection* magazine's list of states with the most new and expanded facilities from 2002 to 2004. Kentucky has the smallest population of any of the states in the top 15.
- The Kentucky Cabinet for Economic Development was designated as one of the Top Ten Economic Development Groups in the country for 2001 by the editors of *Site Selection* magazine in the May 2002 issue, based on bringing large-scale corporate expansion projects to the state.
- Eight Kentucky communities ranked in *Site Selection 2004's Top 100 U.S. Micropolitans* for corporate expansions, according to their March 2005 issue. The communities are Paducah (T9), Frankfort (T23), Richmond (T23), Mt. Sterling (T49), Somerset (T49), London (T82), Maysville (T82), and Corbin (T82).
- Kentucky ranked 5<sup>th</sup> for States with Small Town Projects in 2002 and 5<sup>th</sup> for States with Small Town Projects over the three-year period 2000-2002, in *Site Selection* magazine's March 2003 issue.
- Kentucky's electric power costs, in the industrial sector, rank the lowest in the nation for the fifth consecutive year – over 12% lower than any other state east of the Mississippi River and a full 38% lower than the U.S. average. Kentucky's electrical power costs in 2004 for the industrial sector is 3.3 (cents per kWh) compared to the national average of 5.3 (cents per kWh).

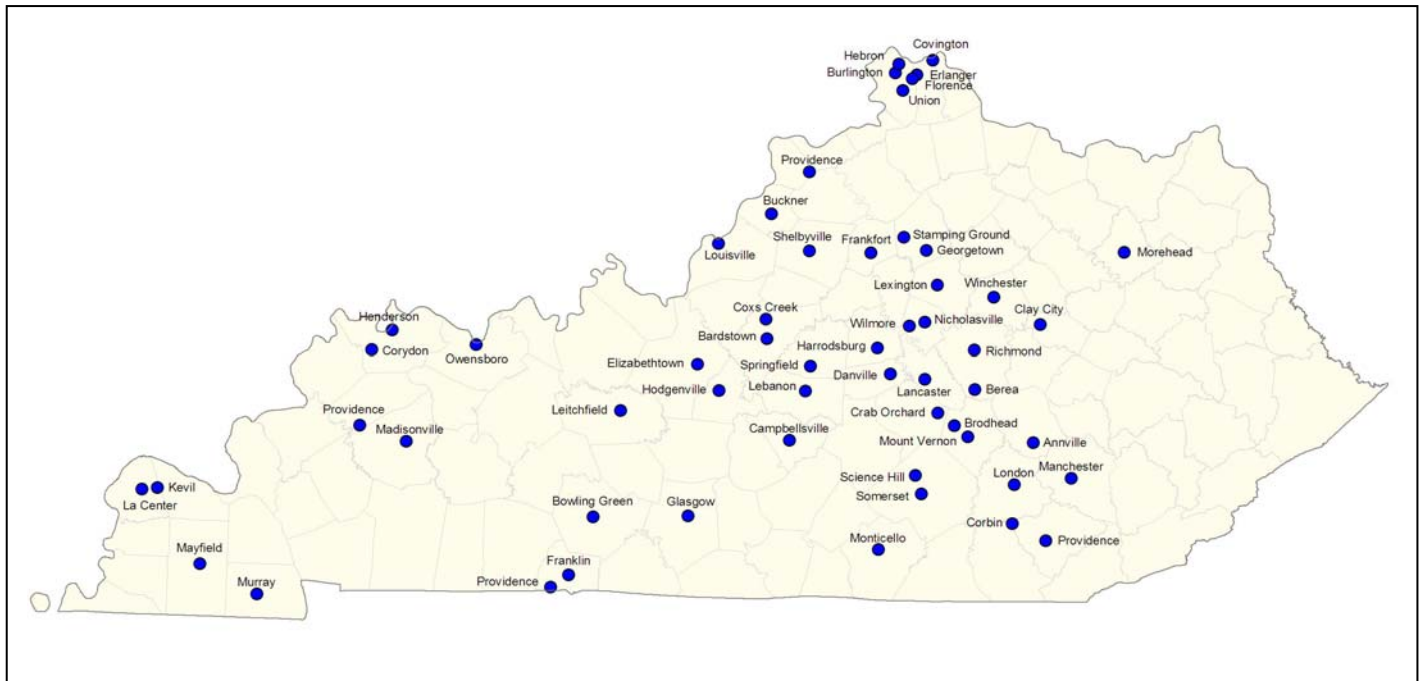
- In 2004, Kentucky ranked 4<sup>th</sup> in total light vehicle production, 3<sup>rd</sup> in production of cars, and 5<sup>th</sup> in production of light trucks in the U.S. Almost 10% of all cars/trucks made in the U.S. are manufactured in Kentucky.
- Kentucky is the home for United Parcel Service (UPS) overnight air cargo and containerized package hub in Louisville which serves global destinations.
- Kentucky's roads were rated 9<sup>th</sup> best in the nation in a study of cost-effective highway performance by the University of North Carolina (UNC) Charlotte's Center for Interdisciplinary Transportation Studies for 2001. The annual study has consistently rated Kentucky among the top fifteen states for the last five years.
- Kentucky has some of the most innovative business development programs in the nation to encourage business investments and expansions, including a wide range of tax exemptions and financing. *Site Selection's* rankings of Kentucky among the topmost states in job creation for the last several years support Kentucky's position as an attractive state for both new and expanding business.
- Kentucky continues to be the state with the lowest overall cost of doing business in the eastern United States, and the 4<sup>th</sup> lowest cost nationally according to the economist with Economy.com. The March 2005 publication of the *North American Business Cost Review* measures the cost of doing business within a state for unit labor cost, tax burden, and energy cost.
- *Expansion Management* magazine's October 2005 issue ranked Kentucky's Workforce Training Programs, which includes the Bluegrass State Skills Corporation (BSSC), 3<sup>rd</sup> in the U.S. For the 3<sup>rd</sup> consecutive year, Kentucky has ranked in the Top Ten, placing 5<sup>th</sup> in 2004 and 8<sup>th</sup> in 2003. The ranking considered the programs' efforts in facilitating customized business and industry training services for new, expanding and existing companies.

**Table 4: Competitor State Business Cost: 2004**

Kentucky's Competitor States	Overall Rank		Labor Cost		Energy Cost Index		State & Local Tax	
	Index	Rank	Index	Rank	Index	Rank	Index	Rank
<b>United States</b>	<b>100.0</b>	<b>-</b>	<b>100.0</b>	<b>-</b>	<b>100.0</b>	<b>-</b>	<b>100.0</b>	<b>-</b>
<b>Kentucky</b>	<b>83.8</b>	<b>1</b>	<b>85.9</b>	<b>1</b>	<b>66.1</b>	<b>1</b>	<b>94.8</b>	<b>9</b>
Tennessee	91.8	3	96.6	5	77.9	3	77.3	1
Alabama	92.0	4	95.0	4	83.4	8	82.5	2
Indiana	97.2	7	101.7	9	78.4	4	91.9	5
Missouri	97.9	8	102.7	11	81.2	6	87.3	3
Virginia	99.3	11	104.6	13	80.8	5	87.8	4
South Carolina	98.0	9	101.8	10	82.4	7	92.6	6
North Carolina	89.7	2	89.9	2	86.4	11	92.8	7
Mississippi	98.3	10	100.3	7	88.2	12	98.4	12
Georgia	95.4	6	97.5	6	86.3	10	93.8	8
Arkansas	92.8	5	94.2	3	83.7	9	96.1	11
West Virginia	103.2	14	107.5	14	73.7	2	114.9	15
Illinois	103.0	13	104.5	12	101.2	14	95	10
Ohio	101.8	12	101.2	8	99.1	13	110.5	14
Michigan	113.2	15	116.7	15	102.6	15	103.3	13

Source: Derived from data provided by the *North American Business Cost Review*, Prepared by Economy.com, Inc.

## V. FACILITIES



City	Facility Name	Product Description	Employment
Annville	Stonewall Jackson Mold	Molds	9
Bardstown	FET Engineering Inc	Electroform nickel, slush/rotational molding, RTM, vacuum forming & tools & automotive interior trim	27
Bardstown	Legacy Mold & Tool Inc	Tool & die: plastic injection molds, jigs & fixtures	7
Bardstown	Spalding & Fuller Precision Tool	Machine shop: tools, dies, jigs & fixtures, arc & MIG welding, drilling, boring, honing & cutting	9
Berea	Berea Tool & Cutter Grinding	Tool and die, cutting, grinding, fixture, prototype, fabricating, machining and repair work.	11
Bowling Green	C G S Machine & Tool Inc	Specialty machinery, tool & die, spare parts, production runs	29
Brodhead	EST Tool & Machine	Dies, welded fabrication, gages, fixtures, machining to support the automotive and aerospace industries.	12
Buckner	Aggressive Tool & Die Inc	Tool & die, molds	7
Buckner	Toolcraft Co	Foil container dies, special machinery, precision CNC machining, tool & die, jigs & fixtures, cutting, boring, drilling, grinding, lathe & mill work	8
Burlington	Acramold Inc	Custom molds & plastic products	14
Campbellsville	J & K Tool	Machine shop: general machining, tool & die	8
Clay City	Rogers Tool & Manufacturing	Sheet metal fabricating, tools, dies & fixtures	7
Corbin	Karr Industries Inc	Machine shop: tool & die; machinery parts	10
Corydon	Quality Tooling Inc	Tools, steel dies, jigs & plastic injection molds	31
Covington	Andrews Laser Works Corp	Provider of laser processing, metal stamping, welding, fabrication, and machining services; and manufacturer of jet engine components.	52
Covington	D C Morrison Co	Machine shop: keyseaters, speed lathe & special milling machines	25
Coxs Creek	Synergy Tool & Gauge LLC	Tool & die: checking fixtures	27
Crab Orchard	Genton Tool & Die Inc	Machine shop: machinery parts, general, CNC & Swiss screw machining, tool & die, jigs, drilling, cutting, honing, welding, grinding, lathe & mill work	3
Danville	Fred Cain Farm Equipment Co	Bush hogs	31
Danville	Hill Tool & Die Inc	Tool & die	38

City	Facility Name	Product Description	Employment
Elizabethtown	Adams Magnetic Products Co	Magnets, magnetic tools & custom metal grinding	18
Elizabethtown	Clinton Industries Inc	Tools, dies & specialty machinery	12
Elizabethtown	Enprotech Mechanical Services	Stamping press repair	34
Elizabethtown	Robert Bosch Tool Corporation	Screwdriver bits, holders, sockets & nut runners	110
Erlanger	King Tool Co	Custom tooling & CNC machinery rebuilding & retrofitting	11
Erlanger	Steinkamp Molding LP	Industrial molds and tools, plastic injection molds, plastic blow molds, foam molds. Prototypes, parts, jigs, fixtures, precision high speed CNC machining.	16
Florence	Krauss-Maffei Corp	Reaction process, extruding & injection molding equipment	143
Florence	Mazak Corp	Machine tools; general machining & assembly	556
Frankfort	IDT Tools Inc	Automotive tools, dies, and metal stampings	20
Frankfort	WMI Incorporated	Metal stampings, tool & die	105
Franklin	Novitec Industries Inc	CNC machining facility, long-run production, volume die cast machining, 30 CNC machines, screw machines, production tube-cutting, wire EDM, waterjets	105
Georgetown	C & D Manufacturing LLC	Tool & die: jigs, fixtures & progressive dies	14
Georgetown	Carbide Products Inc	Special tools, parts, machine wear components for industrial customers worldwide. Materials include solid tungsten carbide, carbide tipped, silicon nitride, silicon carbide	36
Georgetown	Georgetown Tool & Manufacturing Inc	Machine shop: general machining; drilling, boring, cutting & honing; lathe & mill work; precision tools; specialty machinery & parts. CNC machining (close tolerance) milling	15
Georgetown	Robco Tool & Manufacturing Co	Tool & die & metal stamping, welding	2
Georgetown	STM Inc	Tool & die, specialty machines, jigs & fixtures; grinding, polishing, general & CNC machining, drilling, boring, cutting, honing, lathe/ mill work, fabricators, molding plastic	15
Georgetown	Vuteq Engineering Corp	Reusable steel material handling containers, automotive stamping dies, automated assembly line equipment, checking fixture gauges & EDM	80

City	Facility Name	Product Description	Employment
Georgetown	Wise Industry	Metal die blocks & special machinery tools, box spring tables (Sealy Corp.), electrical box handles (Square D), automotive stampings (Johnson Control), metal fabricating (TMMK)	2
Glasgow	Madison-Smith Machine & Tool	Machine shop: general machining, arc & gas welding, metal fabrication, water jet cutting, machinery moving and installation, rigging and plant maintenance service.	61
Harrodsburg	Mercer Tool & Die Inc	Tools, dies, jigs & fixtures; machine shop: general machining, drilling, boring, cutting, honing, grinding, electric welding, mill & lathe work	3
Hebron	Cincinnati Lamb	Machine tool industry manufacturer	353
Hebron	Jackson Tool & Mold	Tool & mold, CNC machining, plastic injection molding, rubber & plastic molds	5
Hebron	Northern Kentucky Engineering Inc	Plastic injection molds, custom machines for manufacturing	18
Henderson	Drilco Industrial Inc	Drill pipe fabricating, stabilizers, shock subs & drill bits	18
Henderson	J-Ron Machine & Tool Inc	Plastic injection & steel molds	24
Henderson	Service Tool & Die Inc	Tool & die	70
Henderson	Service Tool & Plastics	Injection molded plastics	120
Henderson	Sunrise Tool & Die Inc	Plastic injection molds & repairing	21
Henderson	Thompson Tool Inc	Drill bits	19
Henderson	Vincent Industrial Plastics Inc	Custom plastic injection molding, decorating and assembly, injection mold tooling, plastic product design and engineering	300
Hodgenville	Lincoln Tool Inc	Tool & die: precision machining	10
Kevil	Kevil Tool & Die Inc	Machine shop: general & CNC machining, drilling, boring, cutting, tool & die	13
La Center	Western Cutterheads Inc	Cutterheads (faux wood working)	11
Lancaster	Progressive Machine & Tool LLC	Machine shop: machinery repair & rebuilding, tool & die. Proto typing, short run production and design.	6
Lebanon	Summa Technology Inc	Metal fabrication: cutting, sawing, laser cutting, welding (certified), design services, specialize in returnable material handling racks & baskets	150
Leitchfield	Byrd Tool Corp	Woodworking industry cutting tools	20
Lexington	Accurate Tool & Manufacturing Company, Inc.	Tool & die: plastic & rubber molds, medical & industrial prototype parts	8

City	Facility Name	Product Description	Employment
Lexington	Accuromm U S A Inc	Carbide cutting tools	55
Lexington	Blue Grass Manufacturing Inc	Contract manufacturer, CNC machining, metal fabrication, welding and electro mechanical assembly, stampings, fabricated wire, tube and pipe	20
Lexington	Doller Machine & Tool Inc	Tools, dies & fixtures	3
Lexington	Eastlex Machine Shop	Attaching & belt loop cutting machines & press-type machines	24
Lexington	Imperial Tool & Manufacturing Co Inc	Custom made special machinery, molded tools, dies, jigs, plastic products & molds	9
Lexington	Star Manufacturing Inc	Furniture mechanisms; metal stampings; jigs & fixtures; production & spot welding; surface, blanchard & production grinding	70
London	Highland Diversified Services Inc	Subcontract assembly, powder coat painting, welding, metal stamping (40 ton - 800 ton)	369
Louisville	Accurite Machine & Manufacturing Inc	Machinery and equipment; fixtures; gauges	14
Louisville	A-Line Tool & Die Inc	Tool & die: plastic injection molds & aluminum stamping dies	7
Louisville	Alliance Machine Tool Co	Machine shop: machinery tool accessories, gauges & custom replacement parts	21
Louisville	Anglo-American Molds Inc	Plastic injection & heat resistant molds (thermoplastic & thermoset tooling for plastics industry)	5
Louisville	Anson Industries LLC	Machine shop: CNC & precision machining; custom machinery & parts; jigs & fixtures; die rebuilding & repair; metal fabricating	35
Louisville	Blandford Machine & Tool Co	Machine shop: tools, dies, jigs, fixtures, prototypes & special machinery; drilling & boring	17
Louisville	Craig Machinery & Design Inc	Automation machinery & tooling, plastic assembly equipment	21
Louisville	D Y E Design Inc	Machine shop: CNC machining, fabricating & tooling	14
Louisville	Deltech Manufacturing Inc	Tools, dies, jigs & fixtures; metal stamping & fabricating, welding, drilling, CNC machining & plastic injection molding	28
Louisville	Falls City Machine Technology	Machine shop: heat treating & custom built machinery	24
Louisville	Hi-Tech Mold & Tool Inc	Custom plastic molds; plastic injection molding, tooling, decorating, thermoforming & foam fabricating	110



City	Facility Name	Product Description	Employment
Louisville	Ideal Machine & Tool Inc	Machine shop: general, milling & CNC machining, welding, grinding, drilling & boring	9
Louisville	Industrial Carbide Saw & Tool	Carbide tipped cutting tools; bandsaw, segmental & inserted saw blades, strapping, fittings & knives, stretch film, plastic banding, sharpening services	25
Louisville	Kentucky Machine & Tool Co	Machine shop: general & CNC machining, repairing, tool & die, jigs & fixtures, welding, drilling, boring, cutting, honing, lathe & mill work	16
Louisville	MedVenture Technology Corp	R & D and manufacturing medical devices	170
Louisville	Mike Alexander Dies Inc	Steel rule cutting dies	27
Louisville	Precision Tool Die & Machine	Machine shop: CNC, lathe & mill machining, screw machine parts, tube bending, metal stampings, tool & die, turning, boring, threading, power coating	190
Louisville	Precision Tool Die & Machine	Tool & die, CNC machining, tube bending, metal stampings, turning, boring, threading, lathe & mill work	3
Louisville	Roller Die & Forming Co Inc	Custom roll formed metal shapes, tool & die	51
Louisville	S & S Tool & Machine Co Inc	Machine shop: CNC machining, production parts, gauges & checking fixtures	25
Louisville	S & S Tool & Machine Co Inc	Machine shop: precision machined parts, gauges & fixtures	50
Louisville	Schuler Machine & Tool Co	Custom metal fabricating, production work	43
Louisville	Six Sigma Inc	Hydraulic & electronic tooling systems	38
Louisville	Spalding & Day Tool & Die Co	Tools, dies, fixtures, gauges	34
Louisville	Stauble Machine & Tool Co Inc	Metal stampings, tools, dies & jigs; machinery & machine tools rebuilding	90
Madisonville	Summitt Molding & Engineering	Molded plastic parts	21
Manchester	Kentucky Mountain Industries	Cold rolled, brass, CRS & stainless steel automotive stampings; plumbing fixtures & appliance parts; tool & die	22
Mayfield	Pioneer Mold & Engineering Inc	Plastic injection molds	8
Monticello	Monticello Tool & Die Inc	Tool & die: jigs & fixtures	20
Morehead	Morehead Machining Inc	Tool & die: jigs, fixtures & progressive dies	15
Mount Vernon	B & H Tool Works Inc	Specialty machinery	29
Mount Vernon	Integrity Mold & Die Ltd Inc	Tools & dies, plastic injection & thermoform molds	30

City	Facility Name	Product Description	Employment
Murray	Murray Mold & Die Co	Plastic injection & die cast molds & metal stampings; wire EDM & precision CNC machining	12
Nicholasville	Clark Machine Tool & Die Inc	CAD & CAM tool design, dies, fixtures & machines; machine shop: wire cutting EDM, drilling, boring, cutting, honing, lathe & mill work	23
Nicholasville	Sector Technology Inc	Industrial cutting machinery	15
Nicholasville	Tammcor Industries	Machine shop: general, CNC, prototype & development machining; tooling, prototypes, tool & die; extrusion & progressive dies	20
Owensboro	Industrial Mold & Machine Co	Machine shop: general, CNC & electrical discharge machining; injection & blow molds; arc, MIG & TIG welding; mill & lathe work	23
Owensboro	Owensboro Manufacturing LLC	Metal stampings & fabricated metal products	40
Owensboro	Toolco Inc	Tools, dies, jigs, fixtures & industrial molds	12
Providence	Da-Co Machine & Fabricating	Machining and welding services	9
Richmond	B & H Tool Works Inc	Progressive dies, jigs, design and build special machines/wire EDM work, lathe work and stamping	105
Richmond	Madison Tool & Die Inc	Tool and die making	4
Richmond	Nichidai America Corporation	Forging dies	31
Richmond	South Park Tool & Die	Design/build progressive, multislide, secondary metal stamping dies, jigs, fixtures, special tools and die repairs	14
Richmond	Speedwell Tool & Die	Tool & die: custom molded dies	2
Science Hill	Science Hill Tool Works Inc	Tool cutting	2
Shelbyville	Bluegrass Forging Tool & Die	Die forging, tool & die	10
Somerset	Bee Lick Tool & Manufacturing	Machine shop: mold components, EDM, CNC & general machining, OD, ID & surface grinding, tool & die, lathe & mill work. High precision job shop/3D machine, C&C machine/EDM machine	5
Somerset	Branch Tool Inc	Machine shop: milling & CNC machining; tool & die	13
Somerset	Somerset Tool & Die Corp	Machine shop: tools, dies, jigs & fixtures	7

City	Facility Name	Product Description	Employment
Springfield	Midwest Stamping Co	Mig welding and glass assembly	57
Stamping Ground	Commonwealth Tool & Machine Co	Tool & die, special machines & gauges, EDM work, materials handling equipment, conveyor systems, fixtures & automated machines	43
Union	S & S Tool & Die Inc	Machine shop: cutting, boring, drilling, honing, general machining, tool & die	1
Wilmore	Sterling Tool & Die Inc	Tool & die; general machining & custom metal fabricating, machine tool builder (special machines)	8
Winchester	TI Group Automotive Systems	Tool & die	42

## Endnotes

<sup>1</sup> Area Development Online Industry Report, August 2005 *Retooling the Machine Tool Industry*

<sup>2</sup> National Tooling and Machining Association, <http://www.istmaworld.org/information/default.asp?NavPageID=23913>

<sup>3</sup> Area Development Online Industry Report, August 2005 *Retooling the Machine Tool Industry*

<sup>4</sup> AMT – The Association for Manufacturing Technology, [AMT@AMTonline.org](mailto:AMT@AMTonline.org)

<sup>5-7</sup> Manufacturing & Distribution USA Detroit: Gale Group, 2000

<sup>8</sup> U.S. Department of Energy, Energy Information Administration.

<sup>9</sup> Calculations made from Gross State Product and Wage & Salary Disbursement data from U.S. Bureau of Economic Analysis, 2004.